

Immunization for Life:

Adolescence and Adulthood

Traditionally, vaccines have been associated with protecting young children from childhood diseases. Increasingly, public health programs are focusing on the lifelong benefit that vaccines bring. The National Immunization Program is involved in many efforts to protect adolescents and adults from vaccine-preventable diseases that can affect us throughout life.

Continuing Efforts in Adult Immunization

NIP continues to support improved vaccination coverage for adults, including efforts to

- Improve physician and institutional practices for adult immunization
- Identify and overcome barriers to adult immunization that lead to substantially lower vaccination levels in African-American and Hispanic populations
- Connect immunization services to preventive health services for heart disease, asthma, diabetes, breast and cervical cancers, and other diseases
- Identify and prevent missed opportunities for vaccination in healthcare settings, the workplace, and other community areas
- Collaborate with partners to increase hepatitis B vaccination coverage rates among high-risk populations
- Work with partners and stakeholders to implement the 50 recommendations from the National Influenza Vaccine Summit

Adolescent Immunization

The National Vaccine Advisory Committee and the Centers for Disease Control and Prevention plan to bring together key stakeholders to focus on priorities in the delivery of new vaccines for adolescents. This meeting, to be held in June 2005, will attempt to identify how to increase the proportion of adolescents who receive newly recommended vaccines and how to integrate these approaches to adolescent immunization with established adolescent health, education, and development programs.

The NIP website also offers an adolescent area entitled “Vaccines for Teens: Vaccinate before You Graduate” available at www.cdc.gov/nip/recs/teen-schedule.htm. The site includes information about vaccines recommended for teenagers and provides links to information about vaccines for adults and children.

Encouraging Adult Immunization

One of the greatest public health challenges is extending the success in childhood immunization to the adult population. Illness caused by vaccine-preventable diseases is expensive in terms of dollars and, more

importantly, human lives. Each year we spend many billions of dollars treating adults for vaccine-preventable illnesses, and each year, on average, more than 47,000 adults die from diseases that could have been prevented. (See the *Disease Impact Chart* on the facing page). Fortunately, vaccines are available to prevent many potentially debilitating diseases, including influenza, pneumococcal disease, and hepatitis B virus infection. Hepatitis B vaccine provides protection against common causes of liver disease and liver cancer, making it the first vaccine that is effective in preventing cancer.

Disease Impact Chart

Influenza Disease & Impact

Description—Highly infectious viral illness

Symptoms and Signs—Fever and chills, dry cough, runny nose, body aches, headache, sore throat

Complications—Pneumonia, exacerbation of chronic illnesses (such as heart and lung diseases), and death

Transmission—Contact with an infected person spreading the virus by droplets

Hospitalizations—over 200,000 (more than 60% are 65 years old or older)

Deaths—36,000 annually (more than 90% are 65 years old or older)
– During the 1990s, influenza epidemics caused 239,000 deaths.
– During the 20th century, three influenza pandemics caused more than 600,000 deaths.

Direct medical costs—Over \$2 billion for hospitalized cases alone

Hepatitis B Disease & Impact

Description—A disease of the liver caused by hepatitis B virus

Symptoms—Frequently, no symptoms, but if present can include yellow skin or eyes, tiredness, stomachache, loss of appetite, nausea, or joint pain. Hepatitis B can infect people without making them feel sick.

Complications—Victims of this disease can suffer from lifelong liver problems such as scarring of the liver, chronic liver disease, and liver cancer.

Transmission—Hepatitis B is spread when someone has contact with the blood of an infected person or has sex with an infected person. This is a highly contagious disease—100 times more contagious than the virus that causes AIDS. Sources of infection are not found for about one-third of those infected with hepatitis B.

Infections—There are approximately 70,000 new infections each year, mostly in adolescents and adults. About 6% of these people become chronically infected and face a 15%–25% lifetime risk of death from chronic liver disease.

Deaths—About 1.25 million people in the U.S. suffer from chronic hepatitis B infection, and each year approximately 4,000–5,000 die prematurely from chronic liver disease.

Pneumococcal Disease & Impact

Description—Infectious illness caused by a type of bacteria (pneumococci)

Symptoms and Signs of Serious Pneumococcal Disease

Pneumococcal Pneumonia

- Occurs when bacteria invade the lungs
- Symptoms may include high fever, cough with production of mucus, shaking, chills, breathlessness, and chest pain that increases with breathing and coughing

Pneumococcal Meningitis

- Occurs when bacteria invade the tissues and fluids surrounding the brain and spinal cord. Symptoms may include headache, stiff neck, fever, mental confusion and disorientation, and visual sensitivity to light. The disease can lead to coma and death.
- Permanent disabilities among some survivors of the disease include hearing loss (the most common), learning disabilities, mental retardation, seizures, and other sensory or motor problems.

Pneumococcal Bacteremia

- Occurs when bacteria invade the bloodstream. Symptoms include fever and fatigue and can be accompanied by pneumonia and meningitis.
- *Complications*—Death. In the U.S., pneumococcal infections are one of the most common causes of death from a vaccine-preventable disease.
- *Additional Dangers*—Drug-resistant strains of pneumococcus are increasing. Almost a fifth of the isolates of pneumococci tested by the CDC in 2003 were resistant to penicillin.
- *Transmission*—Pneumococci are present in many people's noses and throats and, even if not causing illness, they can be transmitted to others through respiratory droplets. It is not known why some bacteria suddenly invade the body and cause disease.

Impact of Pneumococcal Disease

Pneumococcal Pneumonia

- *Cases* (hospitalized)—100,000–135,000
- *Deaths*—12% of those infected with invasive pneumonia (mostly older adults)

Pneumococcal Meningitis

- *Cases*—2,600
- *Deaths*—18% of those infected with meningitis (mostly older adults)

Pneumococcal Bacteremia

- *Cases*—more than 30,000
- *Deaths*—9% of those infected (mostly older adults)

Setting Policies and Recommendations for Immunization

Working with The Advisory Committee on Immunization Practices and with other public health agencies and advisory groups, NIP recommends vaccines for children and adolescents and for adults. In 2004, recommendations covered use of flu vaccine in light of the vaccine shortage, changes and updates to the recommended childhood and adolescent schedule, and recommendations for adult vaccination. Publications with recommendations are listed here.

Influenza Recommendations

- *Prevention and Control of Influenza*, MMWR 53(RR-06); 1–39, May 28, 2004
- *Supplemental Interim Influenza Vaccination Recommendations, 2004–05 Influenza Season*. MMWR 53(39); 923–924, October 8, 2004
- *Updated Interim Influenza Vaccination Recommendations, 2004–05 Influenza Season*. MMWR 53(50); 1183–1184, December 24, 2004

Other Recommendations

- *Recommended Adult Immunization Schedule—United States, 2003–2004*. MMWR 52(40);965–969, October 10, 2003
- *Recommended Adult Immunization Schedule—United States, October 2004–September 2005*. MMWR 53;Q1–4, November 19, 2004

- *Recommended Childhood and Adolescent Immunization Schedule—United States, January–June 2004*. MMWR 53 (01);Q1–4, January 16, 2004
- *Recommended Childhood and Adolescent Immunization Schedule—United States, July–December, 2004*. MMWR 53 (16);Q1–3, April 30, 2004
- *Guidelines for Maintaining and Managing the Vaccine Cold Chain*. MMWR 52 (42);1023–1025, October 24, 2004

For more information about recommended vaccines and immunization schedules, visit the NIP website at www.cdc.gov/nip.

Recommended Adult Immunization Schedule by Vaccine and Medical and Other Indications UNITED STATES · OCTOBER 2004–SEPTEMBER 2005

Indication▶	Pregnancy	Diabetes, heart disease, chronic pulmonary disease, chronic liver disease (including chronic alcoholism)	Congenital immunodeficiency, cochlear implants, leukemia, lymphoma, generalized malignancy, therapy with alkylating agents, antimetabolites, CSF leaks, radiation or large amounts of corticosteroids	Renal failure/end stage renal disease, recipients of hemodialysis or clotting factor concentrates	Asplenia (including elective splenectomy and terminal complement component deficiencies)	HIV** infection	Health-care workers
Vaccine ▼							
Tetanus, Diphtheria (Td)*.1							
Influenza ²		A, B			C		
Pneumococcal (polysaccharide) ^{3,4}		B	D		D, E, F	D, G	
Hepatitis B*.5				H			
Hepatitis A*.6		I					L
Measles, Mumps, Rubella (MMR)*.7						J	
Varicella*.8			K				

*Covered by the Vaccine Injury Compensation Program.
**Cerebrospinal fluid.
***Human immunodeficiency virus.
See Special Notes for Medical and Other Indications below. Also see Footnotes for Recommended Adult Immunization Schedule on back cover.

 For all persons in this group  For persons lacking documentation of vaccination or evidence of disease  For persons at risk (i.e., with medical/exposure indications)  Contraindicated

Special Notes for Medical and Other Indications

- A.** Although chronic liver disease and alcoholism are not indications for influenza vaccination, administer 1 dose annually if the patient is aged ≥50 years, has other indications for influenza vaccine, or requests vaccination.

B. Asthma is an indication for influenza vaccination but not for pneumococcal vaccination.

C. No data exist specifically on the risk for severe or complicated influenza infections among persons with asplenia. However, influenza is a risk factor for secondary bacterial infections that can cause severe disease among persons with asplenia.

D. For persons aged <65 years, revaccinate once after ≥5 years have elapsed since initial vaccination.

E. Administer meningococcal vaccine and consider *Haemophilus influenzae* type b vaccine.

F. For persons undergoing elective splenectomy, vaccinate ≥2 weeks before surgery.
- G.** Vaccinate as soon after diagnosis as possible.

H. For hemodialysis patients, use special formulation of vaccine (40 µg/mL) or two 20 µg/mL doses administered at one body site. Vaccinate early in the course of renal disease. Assess antibody titers to hepatitis B surface antigen (anti-HB) levels annually. Administer additional doses if anti-HB levels decline to <10 mIU/mL.

I. For all persons with chronic liver disease.

J. Withhold MMR or other measles-containing vaccines from HIV-infected persons with evidence of severe immunosuppression (see MMWR 1998;47 [No. RR-8]:21–2 and MMWR 2002;51 [No. RR-2]:22–4).

K. Persons with impaired humoral immunity but intact cellular immunity may be vaccinated (see MMWR 1999;48[No. RR-6]).

L. No data to support a recommendation.

Adult Immunization Schedule

NIP has also released an Adult Immunization Schedule. First published in 2002, the schedule provides a readable summary of immunization recommendations for adults. The schedule is endorsed by the Advisory Committee on Immunization Practices, the American Academy of Family Physicians, and the American Academy of Obstetricians and Gynecologists. Versions of the schedule have been developed for clinicians and for the general public, available in both Spanish and English. The schedule, which can be downloaded and printed as a full-page document or as a pocket-sized card, can be found in the adult vaccination area of the NIP website at www.cdc.gov/nip/recs/adult-schedule.htm.

Bringing Vaccine Information to Adolescents and Adults

Because of the growing importance of adolescent and adult vaccination, NIP has developed other ways to draw attention to the importance of vaccines for these population groups. In 2004, NIP staff developed a "Vaccine Quiz" to help adolescents and adults understand which vaccines they need. This short online quiz, available on the NIP web site at www.cdc.gov/nip/foradults.htm, is easy to use and can be completed in a few minutes. It provides a list of suggested vaccines based on responses to quiz questions. Those who take the quiz are encouraged to discuss the results with their healthcare provider to determine which vaccines would be appropriate for them.

Recommended Adult Immunization Schedule by Vaccine and Age Group

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Age group (yrs) ▶	19–49	50–64	≥ 65
Vaccine ▼			
Tetanus, Diphtheria (Td)*	1 dose booster every 10 years ¹		
Influenza	1 dose annually ²		1 dose annually
Pneumococcal (polysaccharide)	1 dose ^{3,4}		1 dose ^{3,4}
Hepatitis B*	3 doses (0, 1–2, 4–6 months) ⁵		
Hepatitis A*	2 doses (0, 6–12 months) ⁶		
Measles, Mumps, Rubella (MMR)*	1 or 2 doses ⁷		
Varicella*	2 doses (0, 4–8 weeks) ⁸		
Meningococcal (polysaccharide)	1 dose ⁹		

*Covered by the Vaccine Injury Compensation Program.
See Footnotes for Recommended Adult Immunization Schedule on back cover.

For all persons
in this group

For persons lacking documentation
of vaccination or evidence of disease

For persons at risk (i.e., with
medical/exposure indications)

The Recommended Adult Immunization Schedule is Approved by the Advisory Committee on Immunization Practices (ACIP),
the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Family Physicians (AAFP)

This schedule indicates the recommended age groups for routine administration of currently licensed vaccines for persons aged ≥19 years. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. Providers should consult manufacturers' package inserts for detailed recommendations.

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available by telephone, 800-822-7967, or from the VAERS website at <http://www.vaers.org>.

Information on how to file a Vaccine Injury Compensation Program claim is available at <http://www.hrsa.gov/osp/vicp> or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, DC 20005, telephone 202-219-9657.

Additional information about the vaccines listed above and contraindications for immunization is available at <http://www.cdc.gov/nip> or 800-CDC-INFO [800-232-4636] (English and Spanish).

Significant Achievements in Adult Immunization

Racial and Ethnic Adult Disparities in Immunization Initiative (READII)

Adult immunization coverage levels are well below the Healthy People 2010 goal of 90%, and racial and ethnic disparities in influenza and pneumococcal vaccine coverage rates continue to exist. African Americans and Hispanics have significantly lower influenza and pneumococcal immunization rates compared to the rest of the population. Influenza vaccination coverage among adults 65 years of age and older is 69% for whites, 48% for African Americans, and 45% for Hispanics. The gaps for pneumococcal vaccination coverage among ethnic groups are even wider, with 60% coverage for whites, 37% coverage for African Americans, and 31% coverage for Hispanics.

The Department of Health and Human Services (HHS) has made elimination of racial and ethnic disparities in influenza and pneumococcal vaccination coverage for people 65 years of age and older a priority. To help

address these disparities and to assist in reaching the Healthy People 2010 goals of 90% influenza and pneumococcal vaccination rates among persons 65 years of age and older, HHS, in collaboration with CDC and other federal partners, launched the Racial and Ethnic Adult Disparities in Immunization Initiative (READII) in July 2002.

READII is a multi-year demonstration project being conducted in five sites—Rochester, New York; Chicago, Illinois; Milwaukee, Wisconsin; San Antonio, Texas; and Hinds County and 18 rural Delta counties in Mississippi—to improve influenza and pneumococcal vaccination rates for African Americans and Hispanics 65 years of age and older. READII sites have developed partnerships with public health professionals, medical providers, and community organizations such as large health plans, health insurers, minority health professional organizations, churches, local community groups, and civic leaders. Staff at the sites collaborate with stakeholders to develop and

implement intervention plans for local needs. Interventions are based on results of earlier interventions, qualitative research, and innovative approaches suggested by this research. All efforts focus on increasing immunization coverage in the target populations.

In 2003, baseline data for influenza and pneumococcal vaccination coverage among adults 65 years of age and older was collected for each site, and READII sites began implementing “evidence-based” interventions, media events, and program evaluation plans, reflecting NIP’s commitment to continually evaluate and improve services and service delivery. CDC is closely monitoring READII activities and will apply lessons learned to immunization efforts at other sites across the nation. This survey was repeated in 2004, showing a slight increase in vaccination rates overall in these five sites.

Immunize Now, a toolkit of resources for medical professionals and other practice staff, was developed for the 2003–2004 influenza season and

distributed to targeted physicians and other healthcare providers in the READII sites. This kit won an Award of Excellence from the International Association of Business Communicators in 2004. The *Immunize Now* kit was revised for the 2004–2005 season and distributed to the READII communities. Kits contained information on new recommendations, vaccine and administration reimbursement, standing orders, assessing patient immunization rates, and patient education materials in English and Spanish.

Because of the 2004–2005 influenza vaccine shortage, a number of interventions and communications activities had to be revised, curtailed, or eliminated in the final year of the READII demonstration sites. Plans to modify evaluation efforts are underway and include an attempt to evaluate vaccine allocation efforts and to determine whether specific groups were disproportionately affected by the vaccine shortage. NIP expects to complete and distribute a READII “lessons learned” document in mid-2005.

CDC Three-Center Initiative: Vaccines for Adults at Risk for Hepatitis (VFARH)

Three CDC centers—NIP, the National Center for Infectious Diseases, and the National Center for HIV, STD, and TB Prevention—have been collaborating for several years to bring hepatitis prevention among adults to the forefront of public health disease prevention efforts. Hepatitis B virus infection is one of the leading causes of illness and death compared with other vaccine-preventable diseases. For example, in 2003, the latest year for which data are available, 7,526 cases of acute hepatitis B were reported to CDC; an estimated 73,000 people suffered new infections; 1.25 million had chronic infections; and 5,000 people died from hepatitis B-related illnesses. Also in 2003, there were 7,653 reported cases of hepatitis A infection, and it is estimated that there were approximately 33,000 acute clinical cases overall, with 61,000 new infections. Although the VFC program has made hepatitis A and B vaccine available for children, there is currently no funded hepatitis A and B vaccination program for adults, whose rates for illness and death from hepatitis infections are highest. For the most recent data about hepatitis infections, visit CDC's Viral Hepatitis Surveillance web page at www.cdc.gov/ncidod/diseases/hepatitis/resource/dz_burden02.htm.

Annual statistics are typically available the following year; 2004 data should be released by June 2005. Based on data from state health departments, substance abuse prevention programs, and the Federal Bureau of Prisons, CDC estimates that 2.5 million people nationally receive healthcare services in public sector facilities for preventing sexually transmitted disease and in HIV prevention facilities. These individuals are considered at high risk for hepatitis A and B infection. In addition,

approximately 1 million persons are served by publicly funded substance abuse clinics, and another 1.4 million individuals are in state and federal prison systems. If vaccine were made available, people in these settings would be eligible to receive immunizations. To implement a hepatitis A and B vaccination program for one year in these settings, it is estimated that approximately 768,000 doses of hepatitis A vaccine and 2.4 million doses of hepatitis B vaccine would be needed.

Use of Standing Orders in Nursing Homes

In collaboration with their quality improvement organizations, the Centers for Medicare and Medicaid Services and CDC recently completed a three-year program to promote standing orders for Medicare patients in nursing homes. Baseline data showed that standing orders are both more effective and more cost-effective than other types of immunization programs in nursing homes. Changes in the level of implementation and coverage for influenza and pneumococcal vaccinations are being evaluated.

Use of Pneumococcal Conjugate Vaccine in the Elderly

The only pneumococcal vaccine currently licensed for use with adults is the pneumococcal polysaccharide vaccine (PPV), which provides somewhat limited protection for the elderly. NIP and Emory University are planning a clinical trial to determine if protection can be increased with a combination of PPV and the new pneumococcal conjugate vaccine (PCV). This trial will assess the effectiveness of administering a combination of PPV and PCV given with and without a priming dose of tetanus vaccine. If a combination of vaccines is more effective than PPV alone, studies will be performed to measure how much better a combination protects the elderly from

pneumonia. A small-scale pilot study was begun in January 2004; results from this study should be available later in 2005.

Assessing Progress in Adult Immunization

Adult Clinic Assessment Software Application (ACASA)

With funding and technical assistance from NIP, the American College of Physicians (ACP) has designed a three-year intervention to increase immunization rates among adult patients at high risk for vaccine-preventable diseases. Interested physicians, along with "immunization champions" from their office staff, participate in a one-day training session for NIP's ACASA. Participants leave the training session with a copy of ACASA loaded onto their laptops and then collect baseline immunization data using ACASA when they return to their offices. Using these data, ACP helps each practice pinpoint strengths, weaknesses, and gaps in patient immunizations. Using the NIP model for improving vaccination rates, called AFIX,* ACP then works with each practice to increase its immunization rates.

In the first year of the project, ACP delivered customized ACASA data reports to 13 practices. Each of the 13 practices agreed to develop and implement plans to improve immunization rates and to measure progress over a three-year period. In the second and third years of the project, ACP will expand the number of participating practices to 25 per year; by the end of the 3-year period, ACP expects to conduct interventions in up to 70 practices.

*For more information about AFIX, see the Immunization for Life: Childhood section of this report.

Annual Influenza Vaccine Campaign

NIP launched its influenza vaccine campaign in September 2004. Highlights included

- Collaboration with Centers for Medicare and Medicaid Services (CMS) to create advertisements for journals targeting healthcare providers
- Distribution of 85,000 copies of *Immunize Now*, an award-winning provider kit aimed at increasing influenza vaccination rates
- Audio news releases and video news releases with key messages for the public
- Over 25 items with information for parents, seniors, people at high risk for influenza complications, providers, and the general public—all available from CDC's website, www.cdc.gov/flu

National Influenza Vaccine Summit

The CDC's National Immunization Program and the American Medical Association (AMA) co-sponsored the 2004 National Influenza Vaccine Summit in Atlanta, Georgia in April of 2004. The summit brought together 139 representatives from 60 public, private, and non-profit organizations—all stakeholders in the annual effort to administer influenza vaccine to over 185 million high-priority individuals each year.

The summit identified seven key concepts to be addressed in 2004:

1. Annual variations in influenza vaccine supply
2. Planning for influenza-related health crises
3. Creating "message maps" for influenza immunization
4. Improving healthcare worker vaccination rates
5. Considering the implications of universal vaccination recommendations
6. Improving annual influenza vaccination rates
7. Other approaches to influenza prevention, such as infection control and antiviral drugs

In addition, the Summit played an important role during the 2004 influenza vaccine shortage in disseminating information to its members.

Pandemic Influenza Preparedness and Response

New strains of influenza virus can emerge unpredictably and spread rapidly; significant changes in the virus structure could lead to a pandemic like those that occurred in 1918, 1957, and 1968. Like other countries, the U.S. must prepare for the possibility of a costly and deadly outbreak of influenza. NIP staff contributed to the preparation of the draft National Pandemic Influenza Preparedness and Response Plan, which outlines a coordinated national strategy for dealing with an influenza pandemic.

Released in August 2004, the plan provides an overview of key issues involved in facing such a pandemic and outlines actions that should be taken at the national, state, and local levels before and during a pandemic. The plan includes information for health departments and private sector organizations for use at the local level. The draft plan can be viewed at www.hhs.gov/nvpo/pandemicplan/index.html.

Working with the National Center for Infectious Diseases and the Office on Terrorism Preparedness and Emergency Response, NIP has also initiated a series of four regional meetings about pandemic influenza planning. These meetings should provide updates on selected issues, offer a forum for sharing approaches to pandemic influenza planning, and help identify additional areas where federal guidelines are needed.

Managing Influenza Vaccine Supplies

2003–2004 Flu Vaccine Supply

In December 2003, the U.S. experienced an influenza vaccine shortage. The shortage was accentuated by early onset of influenza outbreaks, publicity about influenza-related deaths in children, and concern about an suboptimal match between the A/H3N2 influenza virus represented in the vaccine and the wild influenza virus circulating that season. CDC assessed vaccine supplies in both public and private health sectors, confirming a vaccine shortage. CDC was able to contract for an additional 630,000 doses of influenza vaccine for use by state and local health departments, and more than 96,000 doses of vaccine were donated to CDC and subsequently distributed to states and localities. As a result of this shortage, CDC allocated \$40 million in 2004 and in 2005 for a pediatric influenza vaccine stockpile; in 2004, these funds allowed for purchase of 4–4.5 million doses of vaccine. CDC also increased its public contract ceiling for vaccine purchase from 4.1 million doses to 6.9 million doses.

2004–2005 Flu Vaccine Supply

On October 5, 2004, CDC was notified by Chiron Corporation that none of its inactivated influenza vaccine (Fluvirin®) would be available for distribution in the United States for the 2004–05 influenza season, eliminating 46–48 million of an expected 100 million doses of inactivated vaccine. In coordination with the Advisory Committee on Immunization Practices (ACIP), CDC issued interim recommendations to direct available inactivated influenza vaccine to persons in certain priority groups. Over 21 million doses of vaccine were distributed between the time the shortage was announced in October and the end of December. An initial 13.5 million doses were allocated by CDC and Aventis Pasteur to complete orders for providers who care for children, hospitals, long-term

care facilities, the Department of Veterans' Affairs, and the Indian Health Service, and to fill partial orders for community vaccinators, primary care providers and specialists, and public health departments.

Secretary Thompson also negotiated the purchase of an additional 1.2 million doses of inactivated vaccine licensed in Europe for investigational use in the U.S. Data collected by CDC in November and December indicated that persons in influenza vaccine priority groups were receiving vaccine at higher rates than non-priority groups, and persons in non-priority groups had largely deferred influenza vaccination during the 2004–2005 season. These data also indicated that the vaccination coverage rate in children aged 6–23 months was almost 37% as of December 2004. Because the 2004–2005 influenza season was the first time that the vaccine has been recommended for those children, this level of coverage is a remarkable achievement.

As the flu season progressed, demand for vaccine by priority groups had been met in some areas, and additional supplies of vaccine became available. In response to these changed conditions, the CDC and ACIP released an update to the 2004–2005 interim recommendations on December 24, 2004. The updated recommendations allowed vaccination not only for the priority groups defined on October 5 but to out-of-home caregivers and household contacts of persons in high-risk groups and to all adults aged 50–64 years where vaccine supply was sufficient. However, mid-season vaccine coverage estimates among adults in priority groups were below estimates from the 2003–2004 season. As 2005 began, ongoing efforts were needed to vaccinate persons in priority groups. CDC continued to work with Aventis Pasteur, Inc. to distribute the remaining supply of its inactivated influenza vaccine Fluzone® so that it reached persons in the priority groups.